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Average Return to Capacity Dates, 1941-1970.

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In Tech.Bull.24, the formulae for return dates for the six regions of England and Wales used annual rainfall only as a regression parameter.

The 1941-1970 data has been reanalysed using the 1941-1970 rainfall averages (R in millimetres) and the average of the summer potential transpirations (P in inches) actually used in the yearly calculations. New regressions were found, (using a return date on the scale Sept 5 = 1 Sept 15 = 2 etc, as follows:-

Area	Formula	Multiple Regression	Partial Regressions on R	on PT
North above 800 mm				
Earlier Quartile	0.41P-0.0085R+1.39	0.99	-0.99	0.64
Median	0.275P-0.0072R+4.85	0.98	-0.98	0.42
Later Quartile	0.31P-0.0079R+8.3	0.96	-0.96	0.33
North below 800 mm				
Earlier Quartile	2P-0.024R-13.4	0.95	-0.91	0.83
Median	1.9P-0.024R-7.5	0.98	-0.96	0.91
Later Quartile	2.33P-0.018R-14.76	0.90	-0.79	0.80
Midlands				
Earlier Quartile	1.16P-0.0215R-0.43	0.96	-0.94	0.69
Median	0.82P-0.022R+8.7	0.95	-0.94	0.54
Later Quartile	0.37P-0.021R+18.7	0.92	-0.91	0.23
East				
Earlier Quartile	1.03P-0.014R-1.97	0.84	-0.67	0.74
Median	0.57P-0.022R+13.0	0.80	-0.76	0.45
Later Quartile	0.275P-0.023R+21.1	0.79	-0.78	0.24
South-east				
Earlier Quartile	0.6P-0.0135R+4.26	0.91	-0.86	0.52
Median	0.38P-0.0145R+11.26	0.96	-0.95	0.53
Later Quartile	0.21P-0.0155R+17.4	0.88	-0.86	0.18
South-west				
Earlier Quartile	Above 850mm 0.68P - 0.01R + 0.53 0.81 -0.80 0.36 Below 850mm 0.78P - 0.0275R + 11.54 0.91 -0.90 0.59			
Median	0.88P-0.01R-1.18	0.88	-0.86	0.53
Later Quartile	0.24P-0.01R+13.4	0.76	-0.77	0.23

Area	Formula	Multiple Regression	Partial Regressions on R	on PT
Wales				
Earlier Quartile	0.075P-0.01R+10.64	0.91	-0.91	0.04
Median	0.51P-0.0115R+6.34	0.96	-0.96	0.36
Later Quartile	0.05P-0.0125R+17.76	0.94	-0.94	0.03

Any comments or suggestions on this paper should be referred to the author.

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